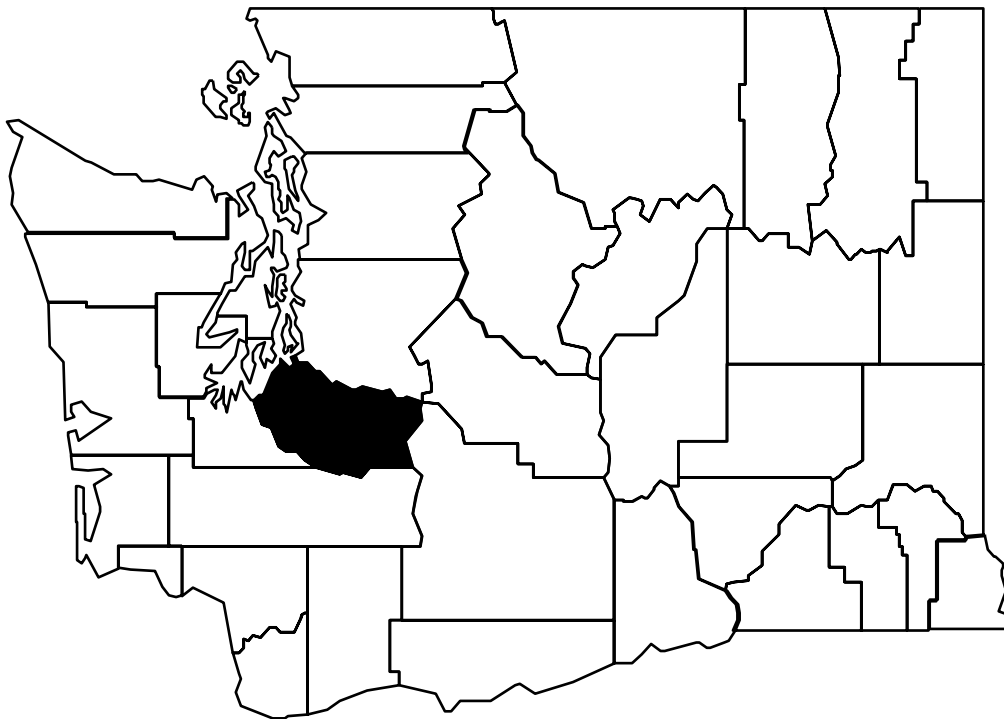


# Sexually Transmitted Disease Profile

Pierce County 2005



## Summary

This report describes the sexually transmitted disease burden in Pierce County. Primary emphasis is placed on chlamydia and gonorrhea since they are the most frequently reported STDs in Washington State. The 2005 incidence rates by age and sex for gonorrhea and chlamydia are presented. The report concludes with a presentation of which providers in your county reported STDs.

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## Pierce County STD Disease Trends

Table 1: **Washington State** Reportable Sexually Transmitted Diseases, Pierce County, 2005.

Disease	2004 Pierce County Cases	2005 Pierce County Cases	2005 Pierce County Rate <sup>λ</sup> (per 100,000)	2005 Washington State Rate <sup>λ</sup> (per 100,000)
Chlamydia	2,687	3,428	453.5	297.6
Gonorrhea	452	675	89.3	59.7
Early Syphilis	8	5	0.7	3.5
Congenital Syphilis	0	0	-	0.0 (live births)
Late/Late Latent Syphilis	14	17	2.2	2.3
Herpes (initial infection)	194	231	30.6	37.3
GI/LGV/Chancroid**	0	0	-	0.0
HIV cases**	21	43		
AIDS cases**	20	18		
<b>TOTAL</b> (excluding HIV/AIDS cases)	<b>3,355</b>	<b>4,356</b>	<b>576.3</b>	<b>400.3</b>

<sup>λ</sup> Denominator estimates for the calculation of incidence rates from Washington State Adjusted Population Estimates, OFM, February 2005.

\* Rates cannot be calculated for years with fewer than five cases.

\*\* See Appendix A for explanation of disease acronyms.

In 2005, Pierce County experienced a increase from 2004 in its combined reportable STD cases. With 4,356 cases of STDs (excluding HIV/AIDS cases<sup>1</sup>) in 2005, the incidence rate for all STDs was 567.3 per 100,000 persons. This is 44% greater than the 400.3 per 100,000 combined reportable STD rate for Washington State in 2005. Pierce County reported no cases of congenital syphilis, GI/LGV/Chancroid in 2005.

The chlamydia and gonorrhea cases reports in 2005 for Pierce County were missing the following information:

Date of Birth - 28	Race – 1,453	Ethnicity – 1,951
Treatment Date – 406	Treatment – 227	

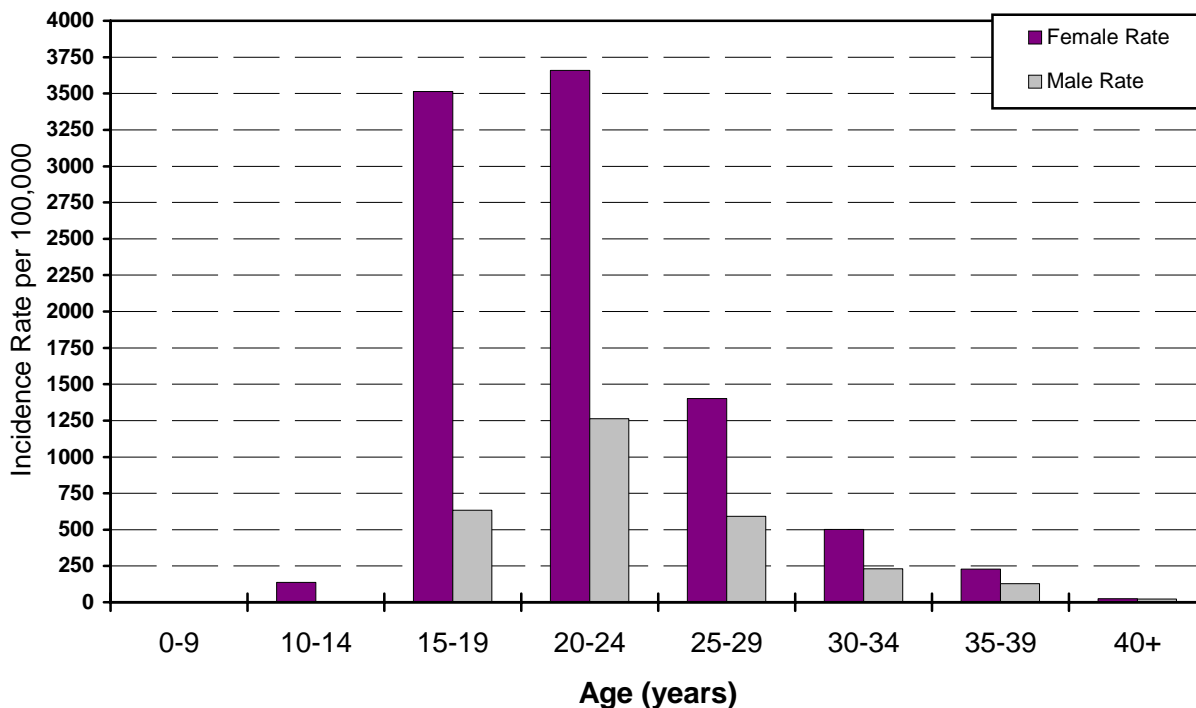
### 2005 compared to 2004:

- Chlamydia had a 28% increase in reported cases (3428 vs. 2687).
- Gonorrhea had a 49% increase in reported cases (675 vs. 452).
- Early syphilis had a 38% decrease in reported cases (5 vs. 8).
- Late/late latent syphilis had a 21% increase in reported cases (17 vs. 14).
- Initial infection herpes had a 19% increase in reported cases (231 vs. 194).

<sup>1</sup> Complete information on the HIV/AIDS epidemic in Washington can be found in Washington State HIV/AIDS Surveillance Report, Washington State Department of Health, IDRH Assessment Unit.

## Chlamydia

Figure 1: **Chlamydia** Incidence Rates by Age and Gender, Pierce County, 2005.<sup>λ</sup>



Female Rate	*	137.2	3513.8	3659.5	1402.6	502.1	228.0	23.2
Male Rate	-	*	634.1	1263.7	592.4	232.1	128.3	22.7
Female Cases	2	38	973	981	342	130	63	39
Male Cases	-	2	183	367	152	61	37	35

<sup>λ</sup> Denominator estimates for the calculation of incidence rates from Washington State Adjusted Population Estimates, OFM, February 2005. Incidence rates rounded to the nearest whole number.

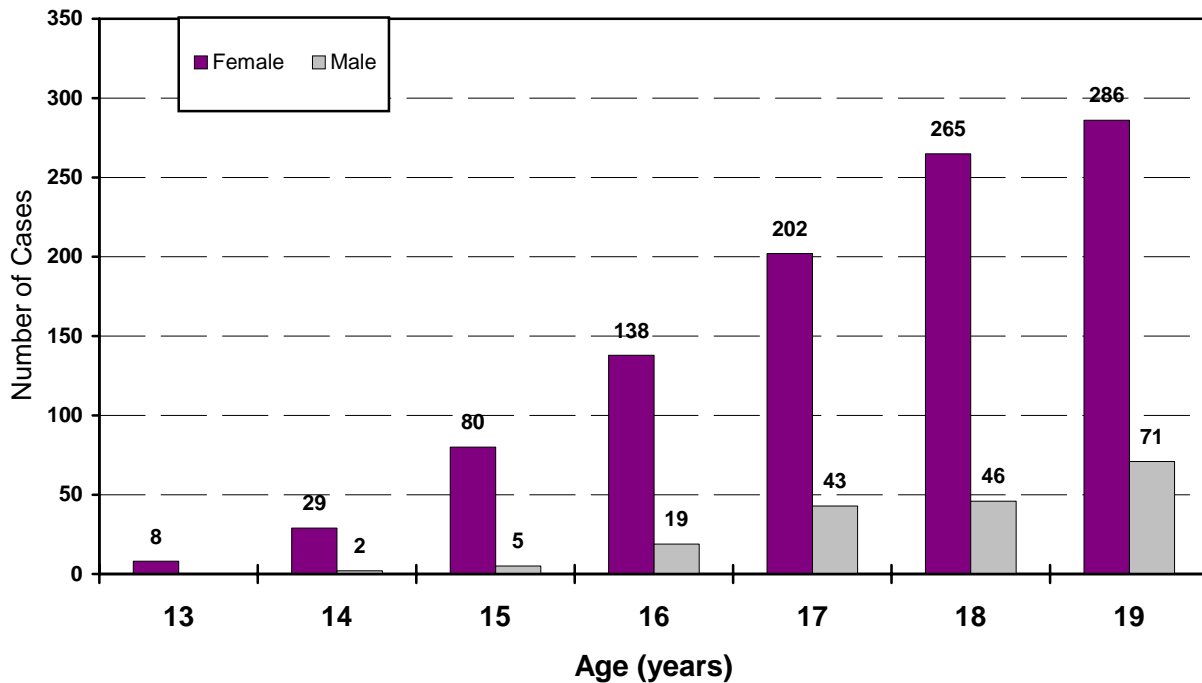
\* Rates cannot be calculated for ages with fewer than five cases.

In 2005, the female chlamydia incidence rate was highest among the 20-24 year old age group in Pierce County, at 3,659.5 cases per 100,000. Chlamydia incidence among females progressively declined with increasing age. Among the men in Pierce County, the 2005 chlamydia incidence rate peaked among 20-24 year olds at 1,263.7 cases per 100,000 then declined with increasing age.

Women are preferentially screened for chlamydia. Because active case-finding is preferentially limited to women, the incidence of chlamydia in men may be under-reported by comparison. Caution should be used in interpreting comparisons of chlamydia rates between genders.

The 2002 STD Treatment Guidelines from CDC recommend that all women diagnosed with chlamydia be re-screened three to four months after treatment. This was suggested because of the high prevalence of chlamydia found in women diagnosed with the disease in the preceding months, presumably as a result of re-infection.

Figure 2: **Chlamydia** Cases by Age (13 - 19) and Gender, Pierce County, 2005.



**Repeater Infection** (Person having more than one infection in a 12-month period.)

Recurrent infection is common and associated with increased risk of pelvic inflammatory disease (PID) and other serious outcomes. Data suggest that young age and incomplete therapy increase the risk for persistent/recurrent infection. Studies also suggest that women's current male sex partners are not receiving treatment for chlamydia and that women are being re-infected by resuming sex with previous (and infected) sex partners. Careful interviewing and prompt, concurrent treatment of all partners is important. People should be coached to ask health care providers for re-screening.

Table 2: **Chlamydia** Repeater Infections, Pierce County, 2005.

	MALE	FEMALE	TOTAL
Reported Cases	845	2,583	3,428
Repeaters Identified	69	309	378
% Repeaters	8%	12%	11%

**Asymptomatic Infection**

STD infections often lack any signs and symptoms. Routine screening and treatment is essential to prevent serious complications that may not appear until long after infection. Screening all sexually active adolescents (19 years and younger) during sports physicals and routine office

visits should be done even if symptoms are not present. Screening women and men aged 20-25 is also suggested, particularly those who have new or multiple sex partners. Women who are pregnant, have sex partners infected with chlamydia, have mucopurulent cervicitis or are planning an IUD insertion should also be screened. Careful interviewing and treatment of all partners is important.

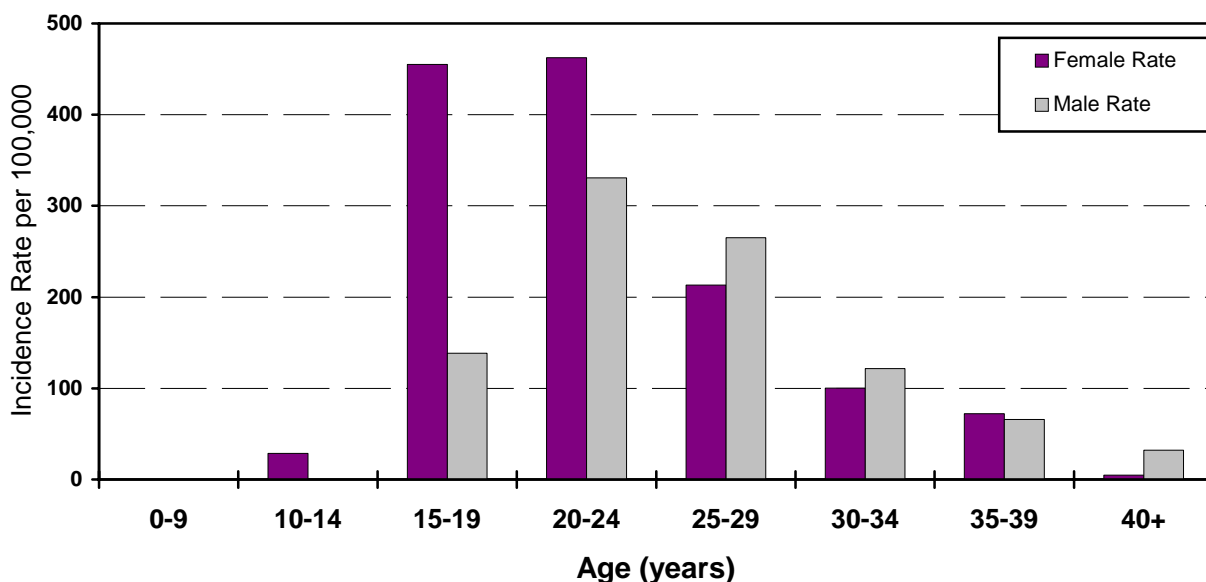
Table 3: Reported Cases of **Chlamydia** by Diagnostic Category, Pierce County, 2005.

Diagnosis	Private		Public		Total		Total Cases
	Male	Female	Male	Female	Male	Female	
<b>Asymptomatic</b>	<b>154</b>	<b>992</b>	<b>117</b>	<b>233</b>	<b>271</b>	<b>1,225</b>	<b>1,496</b>
Symptomatic-Uncomplicated	271	764	152	93	423	857	1,280
Pelvic Inflammatory Disease	-	20	-	1	-	21	21
Other	1	1	1	2	2	3	5
Unknown	104	367	45	110	149	477	626
<b>TOTAL</b>	<b>530</b>	<b>2,144</b>	<b>315</b>	<b>439</b>	<b>845</b>	<b>2,583</b>	<b>3,428</b>

## Gonorrhea

In 2005, the female gonorrhea incidence rate was highest among the 20-24 year old age group in Pierce County, at 462.6 cases per 100,000. Gonorrhea incidence among females progressively declined with increasing age. Among the men in Pierce County, the 2005 gonorrhea incidence rate was highest among 20-24 year olds at 330.6 cases per 100,000, and declined with increasing age.

Figure 3: **Gonorrhea** Incidence Rates by Age and Sex, Pierce County, 2005.<sup>λ</sup>



Female Rate	-	28.9	455.0	462.6	213.3	100.4	72.4	4.8
Male Rate	-	*	138.6	330.6	265.0	121.8	65.9	32.4
Female Cases	-	8	126	124	52	26	20	8
Male Cases	-	1	40	96	68	32	19	50

<sup>λ</sup> Denominator estimates for the calculation of incidence rates from Washington State Adjusted Population Estimates, OFM, February 2005.

Incidence rates rounded to the nearest whole number.

\* Rates cannot be calculated for years with fewer than five cases.

In Washington State the reported rate of gonorrhea incidence in 2005 was 59.7/100,000, an increase from the 2004 rate. Statewide, the greatest incidence of disease among both males and females is among 20-24 year olds (248.2/100,000). However, the burden of disease is disproportionately shared across older age groups among males. Males also had a higher overall gonorrhea rate (67.9/100,000) than females (51.7/100,000). A major factor contributing to the differences in the distribution of gonorrhea incidence across different age by gender is a documented outbreak of GC among men who have sex with men (MSM), whose median reported age was 30.

Findings from the Gonococcal Isolate Surveillance Project (GISP) in Seattle have indicated that Washington State is now an area with increased prevalence of quinolone-resistant *Neisseria gonorrhoeae* (QRNG). Based on these findings, the Washington State Department of Health

recommends that health care providers in the state should no longer use fluoroquinolones (ciprofloxacin, levofloxacin and ofloxacin) as first line therapy for gonorrhea. The antibiotics of choice are ceftriaxone (Rocephin™) or cefpodoxime (Vantin™) accompanied by either azithromycin or doxycycline to treat possible coexisting chlamydial infection.

Figure 4: **Gonorrhea** Cases by Age (13 - 19) and Gender, Pierce County, 2005.

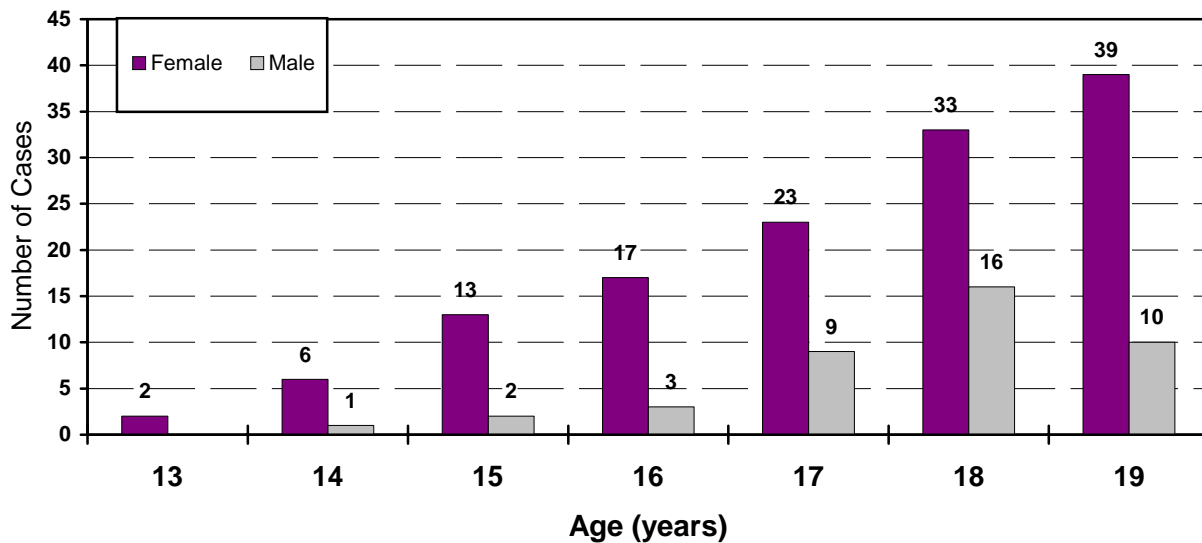


Table 4: **Gonorrhea** Repeater Infections, Pierce County, 2005.

	MALE	FEMALE	TOTAL
Reported Cases	309	366	675
Repeaters Identified	14	28	42
% Repeaters	5%	8%	6%

Because most gonorrhea infections cause symptoms and prompt individuals to seek medical care, reported cases are considered to be an accurate reflection of true disease incidence in the overall population. Providers in Washington State who reported gonorrhea cases in 2005 indicated that 77% of the men were symptomatic for gonorrhea; 42% of the women were symptomatic.



Table 5: Reported Cases of **Gonorrhea** by Diagnostic Category, Pierce County, 2005.

Diagnosis	Private		Public		Total		Total Cases
	Male	Female	Male	Female	Male	Female	
Asymptomatic	18	107	8	26	26	133	159
<b>Symptomatic-Uncomplicated</b>	<b>164</b>	<b>133</b>	<b>67</b>	<b>11</b>	<b>231</b>	<b>144</b>	<b>375</b>
Pelvic Inflammatory Disease	-	16	-	1	-	17	17
Other	2	-	-	-	2	-	2
Unknown	35	58	15	14	50	72	122
<b>TOTAL</b>	<b>219</b>	<b>314</b>	<b>90</b>	<b>52</b>	<b>309</b>	<b>366</b>	<b>675</b>

## Conclusion

Table 6: Reported Cases of Chlamydia and Gonorrhea by Provider Type, Pierce County, 2005.

Provider Type	Chlamydia			Gonorrhea		
	No. of Providers	No. of Cases	Percent of Total Cases	No. of Providers	No. of Cases	Percent of Total Cases
Alcohol/Substance Abuse	-	-	-	-	-	-
Blood Bank/Plasma Center	-	-	-	-	-	-
Community Health Center	14	133	4%	9	41	6%
Emergency Care (excl. hosp.)	19	101	3%	9	26	4%
Family Planning	14	692	20%	5	72	11%
Health Plan/HMOs	15	172	5%	6	29	4%
HIV/AIDS	-	-	-	-	-	-
Hospitals	23	483	14%	11	162	24%
Indian Health	2	33	1%	1	5	1%
Jail/Correction/Detention	11	181	5%	8	52	8%
Job Corps	-	-	-	-	-	-
Migrant Health	3	40	1%	2	10	1%
Military	3	456	13%	1	66	10%
Neighborhood Health	6	8	0%	2	2	0%
OB/GYN	29	157	5%	14	18	3%
Other	118	685	20%	51	141	21%
Private Physicians	73	187	5%	23	33	5%
Reproductive Health	10	66	2%	2	3	0%
STD Clinics	4	14	0%	3	13	2%
Student Health	3	20	1%	2	2	0%
<b>TOTAL</b>	<b>347</b>	<b>3,428</b>	<b>100%</b>	<b>149</b>	<b>675</b>	<b>100%</b>

In Pierce County, the other providers and family planning reported the highest number of chlamydia cases. These providers reported 20% of the total. Other providers reported the second highest number of chlamydia cases (14%). Gonorrhea cases were most frequently reported by hospital providers (24%).

The **Healthy People 2010** national objectives for chlamydia incidence are:

**Females aged 15-24 attending family planning clinics: 3%.**

There are three (3) Region X Infertility Prevention Project (IPP) family planning clinics in Pierce County. The 2005 positivity rate for females was:

Site	<b><u>Male</u></b>			<b><u>Female</u></b>		
	No. of Tests	No. of Pos.	Percent Pos.	No. of Tests	No. of Pos.	Percent Pos.
PP of Western WA - Puyallup	158	25	15.8	2,107	196	9.3
PP of Western WA - Tacoma	58	16	27.6	2,713	275	10.1

**Females aged 15-24 attending STD clinics: 3%.**

**Males aged 15-24 attending STD clinics: 3%.**

There are zero (0) Region X IPP STD/reproductive health clinics in Pierce County.

Other Region X IPP Sites in Pierce County include:

Site	<b><u>Male</u></b>			<b><u>Female</u></b>		
	No. of Tests	No. of Pos.	Percent Pos.	No. of Tests	No. of Pos.	Percent Pos.
Cedar River Clinic - Tacoma	2	2	100.0	121	9	7.4
HIV Counseling & Testing - Tacoma	10	1	10.0	2	0	0.0
Pacific Lutheran University.	28	3	10.7	74	4	5.4
PLU Wellness	101	33	32.7	274	38	13.9
Remann Hall Juvenile	229	18	7.9	165	36	21.8
Sea Mar - Puyallup	0	0	0.0	5	1	20.0
Sea Mar-Tacoma	67	20	29.9	257	13	5.1
University of Puget Sound	17	0	0.0	60	0	0.0
WA Corrections Center for Women-Purdy	0	0	0.0	1,341	64	4.8

See attachment A for Region X IPP screening criteria.

The **Healthy People 2010** national objective for gonorrhea incidence is 19 cases per 100,000.

Pierce County has reductions to achieve before reaching this objective. The rate for Pierce County was 89.3 cases per 100,000, which is 4.7 times the healthy people 2010 national objective.

The Aptima test used to diagnose chlamydia is a combined test that will also diagnose gonorrhea. Gonorrhea positives from the Region X IPP sites include:

	<u>Male</u>			<u>Female</u>		
	No. of Tests	No. of Pos.	Percent Pos.	No. of Tests	No. of Pos.	Percent Pos.
<b>Family Planning Sites</b>						
PP of Western WA - Puyallup	155	2	1.3	2,098	8	0.4
PP of Western WA - Tacoma	58	3	5.2	2,685	26	1.0

	<u>Male</u>			<u>Female</u>		
	No. of Tests	No. of Pos.	Percent Pos.	No. of Tests	No. of Pos.	Percent Pos.
<b>Other Sites</b>						
Cedar River Clinic - Tacoma	2	0	0.0	121	2	1.7
HIV Counseling & Testing - Tacoma	10	0	0.0	2	0	0.0
Pacific Lutheran University	28	0	0.0	74	0	0.0
PLU Wellness	97	10	10.3	271	2	0.7
Remann Hall Juvenile	228	1	0.4	163	15	9.2
Sea Mar - Puyallup	0	0	0.0	5	0	0.0
Sea Mar - Tacoma	67	6	9.0	248	2	0.8
University of Puget Sound	17	0	0.0	60	0	0.0
WA Corrections Center for Women-Purdy	0	0	0.0	1,310	19	1.5

## Appendix A: Data Sources, Analyses and Limitations

Cases: The number of cases identified and submitted by providers to local health jurisdictions and forwarded to the Washington State Department of Health, Office of Infectious Disease and Reproductive Health, STD/TB Services.

Population: Denominator population estimates for incidence rates are from Washington State Adjusted Population Estimates, Office of Financial Management (OFM), February 2005.

Incidence Rates: Incidence rates are calculated as the number of new episodes of a disease (not persons) in a given year divided by the total population (age and sex appropriate) for that year, expressed as a rate per 100,000. Incidence rates allow comparisons between two or more populations by standardizing the denominator and are the most appropriate statistic to use when investigating differences between groups. Rates should not be calculated for incident case totals fewer than five because the rates are unstable.

Data Reporting: Gonorrhea, chlamydia, syphilis, and herpes (initial infection) are reportable diseases to the local health jurisdictions and forwarded to the Department of Health. To be reported and included in surveillance data, disease definition must be met.

### Disease Definitions:

- AIDS - Acquired Immunodeficiency Syndrome is the advanced stage of HIV-disease in humans and is characterized by severe suppression of immune response. Persons with AIDS are at risk for increased susceptibility to opportunistic infections, degradation of major organ systems and eventual death.
- Chancroid - a STD characterized by painful genital ulceration and inflammatory inguinal adenopathy caused by the bacterium *Haemophilus ducreyi*.
- Chlamydia - isolation of *Chlamydia trachomatis* from a clinical specimen by culture or non-culture methods that detect chlamydia antigen or genetic material.
- Gonorrhea - isolation of *Neisseria gonorrhoeae* from a clinical specimen by culture or non-culture methods or observation of Gram-negative intracellular diplococci in urethral or endocervical smears.
- Granuloma Inguinale (GI) - a slowly progressive ulcerative disease of the skin and lymphatics of the genital and perianal area.
- Herpes Simplex (initial infection only) - diagnostic criteria for reporting can be made through clinical observation of typical lesions and/or laboratory confirmation.
- HIV - Human Immunodeficiency Virus is a retrovirus causing HIV disease and AIDS in humans. This pathogen is transmitted from person to person through unprotected sexual contact, sharing of injection equipment and transfusion/transplantation with infected blood or tissue.
- Lymphogranuloma Venereum (LGV) - characterized by genital lesions, suppurative regional lymphadenopathy, or hemorrhagic proctitis, caused by the L1, L2 and L3 serovars of *Chlamydia trachomatis*.

- Syphilis - a complex sexual transmitted disease with a highly variable clinical course. See CDC guidelines for surveillance definition.

The diagnosing practitioner is responsible for providing the case information which includes patient demographics, source of diagnosis, limited clinical information including site of infection and treatment, and date of diagnosis.

Data Strengths: Sexually transmitted disease data may provide more timely information on behavioral trends in the community than diseases with similar modes of transmission particularly HIV/AIDS. There is a high level of participation in the STD surveillance system by private providers of STD services.

Data Limitations: Clinically diagnosed cases of STDs (without laboratory confirmation) may be missed through this surveillance system. Depending upon diagnosing practices, completeness of reporting may vary by source of health care.

Data Biases: Biases could exist in the data due to under-reporting, inability of certain populations to access medical services, error in laboratory reporting, or differential reporting or screening by disease and source of care. However, it is assumed that the number of cases that would fall into these categories is small and normally distributed, thus not significantly impacting the calculated STD rates.

Assumptions: It is assumed that the cases reported from year to year are independent of each other. One violation of this assumption could be if a person who has an STD one year is more likely to have an STD the following year. Also, repeat episodes of the same STD by the same person are not excluded from the numerator count; it is felt that these numbers are not large enough to significantly impact the calculated incidence rates. Finally, we have assumed that all rates follow a chi-square distribution.

Region X IPP screening criteria that are used at the 140 IPP clinics are as follows:

- Sexually active women 24 years and younger;
- Pregnant women;
- Women with mucopurulent cervicitis, cervical friability, or ectopy with inflammation or edema;
- Women with pelvic inflammatory disease (PID);
- Women planning to receive an intrauterine device;
- Women with a symptomatic sex partner;
- Women diagnosed with CT in the last 12 months; and
- Sex partners of persons with chlamydial infection.